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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,261	12/29/2000	Prosenjit Ghosh	42390P10242	8967

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EXAMINER

BOYD, JENNIFER A

ART UNIT

PAPER NUMBER

1771

DATE MAILED: 09/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/751,261

Applicant(s)

GHOSH, PROSENJIT

Examiner

Jennifer A Boyd

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 6 is objected to because of the following informalities: the basis for “a first surface” on line 2 has already been established in claim 1. Please change “a first surface” to “the first surface”. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 3, 4, 5, 16, 17, 18, 23, 24 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claims 4, 5, 17, 18, 24 and 25 contradict the independent claims 1, 10 and 20. By definition, malleable fibers must contain metal. Therefore, carbon, graphite or other non-metal fibers cannot be malleable.
5. Claims 3, 16 and 23 are in improper form for a Markush group. The correct form is as follows: “wherein the fibers include one of the following: a metal, a metal compound *and* a metal alloy”.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 3 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Mayer (US 1,699,302).

8. As to claims 1, 3 and 7, Mayer teaches a metallic abradant comprising a flat ribbon-like metallic wire (lines 47 – 50), which may be entangled upon itself to form an interentangled mass (lines 60 – 65).

9. Claims 1 – 10, 12 – 20 and 22 - 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Bovenschen et al. (US 5,384,185).

10. As to claims 1, 10 and 20, Bovenschen teaches a resin-reinforced conductive assembly. The assembly comprises at least one non-conductive or substantially non-conductive carrier material and least one fiber web which has been provided on at least one side of the carrier material, with fibers of the conductive web having been brought into electrically conductive contact, though the carrier material, with the other side of the carrier material (column 2, lines 18 – 26). Additional fiber webs (first and second surfaces) can be placed on the outside of the resin-reinforced assembly. The fiber web can be made of metal fibers (column 2, lines 62 – 65), which are inherently malleable. The fiber web implies that the constituting fibers are in contact with each other during any state.

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11. As to claims 2, 15 and 22, Bovenschen teaches that the conducting reinforced matrix resin is reinforced with a reinforcing assembly (column 2, lines 18 – 22). The plastic can be thermoplastic (column 4, lines 31 – 36) which can be made flexible.
12. As to claims 3, 16 and 23, Bovenschen teaches that the fiber web can be made of metal fibers (column 9, lines 58 – 62).
13. As to claims 4, 17 and 24, Bovenschen teaches that the fiber web can be made of non-metal materials such as acrylic or polyester fibers (column 4, lines 38 – 41).
14. As to claims 5, 18 and 25, Bovenschen teaches that fiber web can be made of carbon fibers (column 4, lines 38 – 41).
15. As to claim 6, Bovenschen teaches that the conductive web can be bonded chemically (column 3, lines 7 – 10) thus through use of an adhesive.
16. As to claims 7, 11 and 26, Bovenschen teaches that the fiber web can be a nonwoven (column 3, lines 62 – 64) creating a random pattern.
17. As to claims 8, 13 and 27, Bovenschen teaches that multiple fiber webs can be stacked (column 3, lines 67 – 68) creating a stacked pattern.
18. As to claims 9, 14 and 20, Bovenschen teaches that the fiber web can be woven (column 3, lines 10 – 11).

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 11 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bovenschen et al. (US 5,384,185) in view of Mok (US 5,201,866).

21. Bovenschen teaches a resin-reinforced conductive assembly but fails to disclose the use of the assembly as a thermal interface between a first surface which is a thermal plate and a second surface which is a heat source. Mok teaches that thermal dissipation can be enhanced if a thermal interface material is placed between the base of the fin assembly and a heat generating surface (column 12, lines 9 – 24). It would have been obvious to one of ordinary skill in the art at the time the invention was made to place the resin-reinforced conductive assembly of Bovenschen between the two surfaces as suggested by Mok in order to benefit from the thermal conduction properties of the assembly.

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 4,100,322 to *Seibold et al.*

US 5,462,791 to *Kashima et al.*


US 6,311,769 to *Bonneville et al.*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 703-305-7082. The examiner can normally be reached on Monday thru Friday 8:00 am - 4:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Jennifer Boyd
September 18, 2002


TERREL MORRIS
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